

1    **IV    BA-NY's CLAIMED LOOP COSTS**

2  
3    **Q.    BRIEFLY DESCRIBE THE BA-NY COST STUDY LOOP CALCULATIONS.**

4    **A.**    BA-NY develops its claimed loop costs based on a sample  
5           survey of 242 feeder routes taken from 55 wire centers  
6           within its New York service territory.    Claimed monthly  
7           costs for a majority of BA-NY's UNE loop offerings are  
8           calculated using an Excel based computer spreadsheet model  
9           that it calls its Link Cost Calculator.    The model, using  
10          Visual Basic programming, combines information from the  
11          engineering survey data with inputs from variety of other  
12          sources to develop loop investment.    Loop investments for  
13          the sample routes are then aggregated within the model by  
14          density zone and converted to monthly costs.

15   **Q.    FOR WHICH TYPES OF LOOPS DOES BA-NY USE THIS LINK COST**  
16   **CALCULATOR?**

17   **A.**    The calculator is used by BA-NY to compute costs for seven  
18          different types of loops.    They are as follows:

- 19           1) 2-Wire Analog (DS1 or Integrated interface)  
20           2) 2-Wire Analog (DS0 or Universal interface)  
21           3) 2-Wire Digital (DS1 or Integrated interface)  
22           4) 2-Wire Digital (DS0 or Universal interface)  
23           5) 4-Wire Analog (DS1 or Integrated interface)

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1           6) 4-Wire Analog (DS0 or Universal interface)

2           7) 4-Wire Digital (DS1 interface)

3   **Q.    IN ADDITION TO THE SURVEY DATA, WHAT ARE THE SOURCES OF**  
4       **INFORMATION USED BY BA-NY'S LINK COST CALCULATOR?**

5   **A.    The model uses BA-NY internal data such as the Outside**  
6       **Plant Engineers Costing Tool and the ECRIS system, along**  
7       **with a series of engineering assumptions as inputs to the**  
8       **development of loop investment. It also employs a variety**  
9       **of factors, most of which are developed within other**  
10      **spreadsheets in the BA-NY cost presentation, to convert the**  
11      **calculated investments to monthly costs.**

12

13   **DS1 v. DS0 Interface**

14

15   **Q.    YOU IDENTIFIED SEVEN TYPES OF CLAIMED LOOP COSTS PRODUCED**  
16       **BY BA-NY'S LINK COST CALCULATOR. THREE OF THOSE ARE FOR A**  
17       **DS0 OR UNIVERSAL INTERFACE. DO INTERFACES AT THE DS0 LEVEL**  
18       **REFLECT THE LEAST COST, FORWARD-LOOKING TECHNOLOGY**  
19       **CURRENTLY AVAILABLE CONSISTENT WITH THE TELRIC STANDARD**  
20       **AS APPLIED BY THIS COMMISSION?**

21   **A.    No. TELRIC requires that BA-NY's forward-looking economic**  
22       **costs to provide UNEs be based upon a least cost, forward-**  
23       **looking network. In this case, least cost, forward-looking**  
24       **technology means interfacing at the DS1 level with the CLEC**

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1 receiving the benefit of the technological efficiencies  
2 that are available today. It does not mean penalizing  
3 CLECs for connecting to BA-NY's outdated "embedded"  
4 infrastructure. Indeed, the Commission has already  
5 explicitly rejected similar BA-NY claims that UNE costs  
6 should take into account the realities of BA-NY's existing  
7 embedded network. For example, in the Collocation portion  
8 of the Phase 3 Cost Proceeding, the Commission rejected BA-  
9 NY's attempted reliance upon its existing central offices  
10 as the foundation for developing forward-looking economic  
11 costs. Instead, it adopted the forward-looking AT&T/MCI  
12 Collocation Model that models forward-looking economic  
13 costs based upon a forward-looking, efficiently designed  
14 central office -- not based upon the layout and  
15 configuration of BA-NY's existing wire centers. Opinion  
16 No. 99-4, February 22, 1999. Moreover, the Commission has  
17 already recognized that BA-NY's UNE costs should be  
18 premised upon GR-303 integrated interfaces, which logically  
19 accompany the all fiber feeder, all integrated digital loop  
20 carrier forward-looking network construct that the  
21 Commission adopted in setting the current UNE rates -- even  
22 though that network construct differs significantly from  
23 BA-NY's existing network. Order Directing Rate Reductions,  
24 Case 95-C-0657, et al., October 21, 1999. In summary, BA-

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1 NY's claimed loop costs assuming a universal interface  
2 should be rejected since they conflict with the TELRIC  
3 standard as consistently applied by this Commission.  
4

5 **Engineering Survey**

6  
7 **Q. YOU MENTIONED EARLIER AN ENGINEERING SURVEY USED BY BA-NY**  
8 **AS THE FOUNDATION FOR ITS CLAIMED LOOP COSTS PLEASE**  
9 **DESCRIBE THE SURVEY.**

10 **A.** BA-NY relies on an internally generated "Feeder Route  
11 Analysis" as the foundation for the loop configuration in  
12 each of the three density zones. Notwithstanding its name,  
13 the "analysis" is actually a subjective determination by  
14 BA-NY outside plant designers of what a composite "forward-  
15 looking" loop (feeder, sub-feeder and distribution)  
16 configuration would likely be for 242 individual feeder  
17 routes emanating from 55 BA-NY wire centers. The survey  
18 was conducted in three phases, with additional wire centers  
19 added with each subsequent phase. Although BA-NY claims  
20 that the surveyed wire centers account for approximately  
21 21% of the total number of links in the state, in fact,  
22 the survey covers only approximately 10.6% of the BA-NY  
23 wire centers and approximately 11.7% of the BA-NY feeder  
24 routes. The table below sets forth by density group the

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relative proportion of survey coverage in each density zone.

Summary of BA-NY Feeder  
Route Analysis Coverage By Density Zone

	Density Zone	Universe	Sample	% Sampled
Wire Centers	1	19	5	26.32%
	2	115	25	21.74%
	3	385	25	6.49%
	Total	519	55	10.60%
Feeder Routes	1	160	40	25.00%
	2	485	113	23.30%
	3	1,422	89	6.26%
	Total	2,067	242	11.71%
Links	1	2,960,461	875,991	29.59%
	2	6,274,583	1,464,268	23.34%
	3	3,155,223	298,352	9.46%
	Total	12,390,267	2,638,611	21.30%

Source: BA-NY Exhibit Part A-1, Section 8.1

As the table above demonstrates, unlike the AT&T/MCI WorldCom UNE 2 study, which analyzes all of BA-NY's service territory, the BA-NY Feeder Route Analysis samples only a fraction of the BA-NY wire centers and feeder routes.

**Q. BA-NY SUGGESTS IN BOTH ITS PANEL TESTIMONY AND RESPONSES TO DISCOVERY REQUESTS THAT THE INSTITUTIONAL KNOWLEDGE OF THE DESIGN ENGINEERS WHO PARTICIPATED IN THE SURVEY SHOULD ALLAY CONCERNS RELATING TO THE ROBUSTNESS OF THE SAMPLE AND THE QUALITY OF THE INPUTS. DO YOU AGREE?**

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1   A.   We disagree strongly.  Despite BA-NY's purported  
2       characterization, the "survey" hardly reflects a rigorous  
3       analytical exercise.  Beginning with the survey  
4       instructions to the plant engineers and concluding with the  
5       survey results input to the link calculator, it is clear  
6       that each phase of the survey was done within a relatively  
7       short time frame and that many "simplifying assumptions"  
8       were made by the BA-NY design engineers.  In addition,  
9       there are logic inconsistencies in the survey results that  
10      render BA-NY's entire study suspect.

11   Q.   **PLEASE EXPLAIN.**

12   A.   BA-NY provided survey instruction forms for two of the  
13       three phases of the survey, one dated August 25, 1998 and  
14       the other dated September 20, 1999.  The August 25 set of  
15       instructions sought inputs for a total of 20 individual  
16       wire centers comprising 100 feeder routes.  The  
17       instructions asked for the surveys to be completed by  
18       September 18, just a little more than three weeks from the  
19       initial request.  The September 25, 1999 request sought  
20       information on an additional fifteen wire centers  
21       comprising 65 feeder routes.  The instructions requested  
22       surveys be completed by the following Friday, October 1.  
23       Assuming the BA-NY design engineers were not relieved  
24       completely of their day-to-day job responsibilities, the

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1       available timeframes provided limited opportunity for the  
2       BA-NY engineers to actually focus on the survey.

3   **Q.   IS THE FACT THAT BA-NY ENGINEERS HAD LITTLE TIME TO**  
4       **COMPLETE THE SURVEY FORMS A PROBLEM?**

5   **A.**   Apparently so. Even a cursory review of the BA-NY feeder  
6       analysis results, suggests that the survey engineers made  
7       many simplifying assumptions relating to many critical  
8       inputs across feeder routes. For example, for the Flushing  
9       wire center, BA-NY's feeder route survey data, starting  
10      with the wire center name, includes a total of 214  
11      information fields. Of those fields, 8 fields pertain to  
12      specific feeder route information, including: feeder route  
13      number (route); the percentage of lines directly served by  
14      digital loop carrier (dirpct); the total loop length  
15      (totlen); the fiber feeder length (fflen); three fields  
16      containing the number of lines (lines & NALs) and the  
17      maximum distribution length (maxdist). Of the remaining  
18      206 survey data fields for the Flushing wire center, 203  
19      contain *exactly the same data* for all seven Flushing feeder  
20      routes. Yet BA-NY's instructions to its engineers state  
21      that, "It is extremely important that the information  
22      provided be specific to each wire center and the routes  
23      within that wire center." In summary, if BA-NY actually  
24      did an analysis of each individual feeder route, the survey

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1 data would not show exactly the same information for  
2 critical inputs such as average feeder and distribution  
3 cable size, structure mix, and the percentage of customers  
4 assigned to specific types of DLC equipment across all  
5 feeder routes.

6 **Q. DOES THE SAME APPLY FOR THE OTHER 54 WIRE CENTERS INCLUDED**  
7 **BY BA-NY IN THE ENGINEERING SURVEY?**

8 **A.** For the remaining 54 wire centers, at least 196 out of the  
9 206 survey fields contain exactly the same data for all  
10 feeder routes within each wire center.

11 **Q. WHAT SEPARATE LOGIC INCONSISTENCIES HAVE YOU OBSERVED IN**  
12 **BA-NY'S SURVEY DATA?**

13 **A.** The most significant is the relationship between the total  
14 loop length and the sum of the fiber length, subfeeder  
15 length and maximum distribution fields length. The total  
16 loop length is defined in BA-NY's survey instructions as  
17 the distance from the CO to the furthest working customer.  
18 BA-NY defines fiber length as the average distance from  
19 the CO to the planned RT locations on each route. The  
20 subfeeder length is defined by BA-NY as the average length  
21 between the planned RTs and the crossbox. BA-NY defines  
22 the maximum distribution length as the weighted average  
23 maximum distribution length. For every feeder route,  
24 however, BA-NY's stated average fiber length plus the

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1       average subfeeder length plus the average maximum  
2       distribution length always tallies up to the total loop  
3       length - the distance from the CO to the furthest working  
4       customer. It is logically inconsistent that three averages  
5       tally consistently to the maximum loop length. Because the  
6       total loop length is used by the model, it is, therefore,  
7       likely that the loop lengths within the model are  
8       overstated. Although, we do not have sufficient data to  
9       demonstrate definitively that a problem exists, the results  
10      of BA-NY's calculations are logically suspect and BA-NY  
11      cannot provide the Commission with any documentation to  
12      address and resolve that concern. Indeed, when we  
13      requested additional back-up data in an attempt to further  
14      examine the circumstances surrounding the curiously  
15      illogical result described above, BA-NY asserted that no  
16      additional supporting materials exist for its engineering  
17      survey. See, BA-NY response to ATT-BA-1. This would  
18      appear to be an example of BA-NY clearly failing to support  
19      its position once its approach was subject to review and  
20      analysis.

1 Problems with the Link Model

2

3 Q. HAVE YOU IDENTIFIED SPECIFIC PROBLEMS WITH THE LINK COST  
4 CALCULATOR?

5 A. Yes. The most fundamental problem with BA-NY's link cost  
6 calculator is its complete reliance on what, by all  
7 accounts, is "meat axe" survey data. This alone renders  
8 all the results generated by that model suspect. Even if  
9 one were to accept for argument sake the engineering survey  
10 data, however, the BA-NY link cost calculator along with  
11 the related inputs, suffer from numerous patent  
12 deficiencies ranging from basic logic errors to amateur  
13 spreadsheet formula errors, the cumulative effect of which  
14 serves to inflate BA-NY's claimed loop costs far above  
15 forward-looking economic costs.

16 Q. WERE YOU ABLE TO CORRECT THE ERRORS THAT YOU FOUND WITH THE  
17 BA-NY LINK COST CALCULATOR?

18 A. As we explained earlier, the BA-NY cost study is a series  
19 of Excel spreadsheets. Therefore, we were able to correct  
20 most of the errors that we identified, albeit in a  
21 cumbersome manner because of the structure of the BA-NY  
22 cost presentation. Basically, we made two types of  
23 adjustments to BA-NY's study. First, we revised the  
24 inputs and formulas within BA-NY's link cost calculator

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1       itself. Second, we revised the factors and other  
2       adjustments that BA-NY calculated outside of its link  
3       calculator, but included inputs to the model (e.g., annual  
4       cost factors).

5   **Q. PLEASE EXPLAIN THE ERRORS YOU IDENTIFIED WITHIN BA-NY'S**  
6   **MODEL.**

7   **A.** The errors that we identified and corrected within BA-NY's  
8       model itself are as follows:

- 9           a) BA-NY's model incorrectly develops the investment  
10          cost per circuit for a 672-line DLC unit by  
11          erroneously dividing by 192 instead of 672. We  
12          corrected the model to divide by 672.
- 13  
14          b) BA-NY's model incorrectly treats all distribution  
15          block cable as underground, requiring conduit even  
16          though BA-NY's engineering survey data includes an  
17          input value for the portion of block cable that is  
18          underground. The calculator inexplicably ignores  
19          this information. We corrected the model to use the  
20          percentage of block cable that is reported as  
21          underground in BA-NY's engineering survey data.
- 22  
23          c) BA-NY's model uses the same NID investment per  
24          customer in all situations and does provide for  
25          those situations in which a NID would not typically  
26          be placed. We modified the model to exclude NID  
27          investment for those circumstances in which fiber is  
28          assumed to be run directly to the customer premises.  
29          We also substituted a \$5.00 per line block terminal  
30          cost in high-rise buildings and other situations in  
31          which the model does not use drops.
- 32  
33          d) BA-NY's model inappropriately includes cost for  
34          copper riser cable in situations in which fiber is  
35          assumed to go directly to the customer premises. We  
36          eliminated the riser cable investment in these  
37          situations.
- 38

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1 e) BA-NY's survey input sheets identify both Litespan  
2 and NEC HDT equipment for smaller DLC installations.  
3 The NEC equipment is vastly more expensive than the  
4 Litespan and BA-NY has not provided any explanation  
5 of why the added costs are necessary. We replaced  
6 the NEC DLC equipment with Litespan where  
7 appropriate.  
8

9 f) BA-NY's model uses investment costs for installed  
10 poles that range from \$385 to \$767. These costs are  
11 excessive. We substituted the average installed pole  
12 cost of \$417 addressed in Mr. Donovan's testimony.  
13 This cost reflects conformance with the FCC's survey  
14 of ILECs and RUS data evaluated by NRRI which  
15 indicates average material costs of \$214, labor  
16 costs of \$140, and total installed costs of \$357 per  
17 pole. In addition, even a recent Wall Street  
18 Journal article quotes an industry source stating  
19 the average material price of a pole at \$205.  
20

21 g) BA-NY's model does not provide for sharing of pole  
22 investment in distribution facilities. We modified  
23 the model to reflect sharing of poles in  
24 distribution facilities consistent with the sharing  
25 assumptions addressed in Mr. Donovan's testimony.  
26 Specifically, outside of Manhattan, poles are shared  
27 50/50 with electric utilities. In addition, in the  
28 middle density zone, the telephone share of pole  
29 investment is split 50/50 between telephony and  
30 cable.  
31

32 h) BA-NY's model incorrectly applies a cable fill  
33 factor to pole investment. In the BA-NY model, its  
34 already excessive pole investment costs are  
35 increased 2.5 times ( $1 / .40 = 2.5$ ) for cable fill.  
36 This is based on the faulty premise that pole  
37 investment increases linearly with the number of  
38 copper cable pairs. In fact, the \$417 pole  
39 investment that we rely upon is for a 40' pole which  
40 has ample space, after accounting for sharing, to  
41 accommodate additional cable strands. Consequently,  
42 we eliminated the application of the cable fill  
43 factor to pole investment.  
44

45 i) BA-NY's model includes excessive amounts of spare  
46 innerduct. The model assumes that each conduit  
47 carries three innerducts, two of which are used,

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1 leaving the third for a spare. The investment for  
2 the spare is spread over the two innerducts assumed  
3 to be in use. This effectively provides for  
4 innerduct utilization of 66.7%. The model then  
5 applies a 60% utilization factor, making the  
6 effective innerduct utilization 40%. We corrected  
7 this error by eliminating the step of dividing by a  
8 60% utilization factor.

9  
10 j) Similar to the process that BA-NY used for poles,  
11 BA-NY's model incorrectly applies a cable  
12 utilization factor to conduit, implicitly assuming  
13 conduit investment is linear with the number of  
14 cable pairs. We eliminated the application of a  
15 cable fill factor to conduit.  
16

17 **Q. IN ADDITION TO THE LINK COST CALCULATOR INPUT ERRORS THAT**  
18 **YOU IDENTIFIED ABOVE, ARE THERE OTHER PROBLEMS WITH BA-NY'S**  
19 **CLAIMED LOOP COSTS?**

20 **A.** Yes. As we mentioned previously, there are numerous other  
21 flaws in BA-NY's study, all of which overstate its model's  
22 output results creating inflated claimed loop costs. These  
23 problems range in scope from fill factors that are too low  
24 to what appear to be arbitrary adjustments for  
25 environmental factors and "forward-looking" expense  
26 adjustment factors.

27  
28 **Utilization Factors**

29  
30 **Q. DID BA-NY USE THE CORRECT FORWARD-LOOKING UTILIZATION**  
31 **FACTORS IN ITS DEVELOPMENT OF CLAIMED UNE COSTS ?**

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1   A.   No.   The utilization factors employed by BA-NY in its UNE  
2       cost models are far too low and therefore overstate costs  
3       considerably.

4   Q.   **WHAT UTILIZATION FACTOR DID BA-NY USE FOR DISTRIBUTION**  
5       **CABLE?**

6   A.   BA-NY used a 40% factor for distribution cable fill which,  
7       according to BA-NY is consistent with a range of estimates  
8       provided by BA-NY's outside plant engineers in Phase 1 of  
9       Case 95-C-0657 . It relies upon a "bottoms-up" analysis  
10      that purports to support the 40% factor.

11  Q.   **DO YOU AGREE WITH BA-NY'S "BOTTOM-UP" DEVELOPMENT OF ITS**  
12      **PROPOSED DISTRIBUTION FILL FACTOR?**

13  A.   No. BA-NY's "analysis" is without merit. In fact, in  
14      order to arrive at a result that approximates 40%, BA-NY  
15      made a number of self-serving assumptions that fly in the  
16      face of TELRIC costing principles.

17  Q.   **PLEASE EXPLAIN HOW BA-NY TRIES TO SUPPORT ITS PROPOSED 40%**  
18      **DISTRIBUTION FILL FACTOR.**

19      BA-NY starts with what it describes as the "long standing  
20      industry practice" of allocating two distribution cable  
21      pairs per zoned residential unit. BA-NY adjusts this  
22      utilization to reflect actual demand that today is close to  
23      1.2 lines per living unit. Thus, BA-NY concedes that on  
24      average, 20% of households are already at the theoretical

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1 design capacity, so that spare distribution capacity need  
2 only be supplied for the 80% of households not already at  
3 capacity. Stated differently, BA-NY adjusts the average  
4 distribution ultimate demand utilization factor from 50% to  
5 60% ( $50\% \times 1.2 = 60\%$ ). BA-NY then makes a series of  
6 seemingly arbitrary adjustments designed to reduce  
7 substantially the distribution utilization level. First  
8 BA-NY claims that an adjustment of 10% is needed to ensure  
9 that distribution pairs are available to serve prospective  
10 development on vacant parcels of land throughout its  
11 service territory. Second, BA-NY argues that a reduction  
12 of 5% is necessary to reflect the fact that ultimate demand  
13 is not realized at any point in time because of household  
14 and business vacancies within its service territory.  
15 Third, BA-NY argues that a further 10% reduction in  
16 utilization is warranted for customers lost to competitive  
17 alternatives. Combined, BA-NY argues that these factors  
18 contribute to an overall reduction in distribution  
19 utilization of 25%. Stated differently, BA-NY claims that  
20 on average, only 75% of the zoned living units in an  
21 average distribution area ("DA") will be generating BA-NY  
22 demand in a forward-looking scenario. Finally, BA-NY  
23 claims that distribution utilization levels must be reduced  
24 even further to take breakage into account. BA-NY

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1 estimates breakage is responsible for an additional 10%  
2 reduction in distribution utilization in a forward-looking  
3 environment. Based on the foregoing "analysis" which,  
4 according to BA-NY justifies a distribution utilization  
5 level of 40.5% ( $.5 \times 1.2 \times .75 \times .9 = .405$ ), BA-NY  
6 concludes its use of a 40% utilization factor is  
7 reasonable. BA-NY uses the 40% factor here even though it  
8 concedes that for utilization of distribution pairs in its  
9 embedded base "the median and the mode must be one line  
10 (since more than half of the customers are served by only  
11 one line)." See BA-NY response to MCI-BA-96.

12 **Q. WHY DO YOU DISAGREE WITH BA-NY'S DISTRIBUTION UTILIZATION**  
13 **FACTOR DEVELOPMENT?**

14 **A.** First, by starting with design to the ultimate demand of  
15 two lines per zoned residential household, BA-NY has  
16 ignored the actual growth and service characteristics of  
17 existing distribution areas. Under TELRIC, with the  
18 benefit of hindsight, BA-NY can tailor distribution levels  
19 to the specific service and growth characteristics of each  
20 of the DA's studied. In this way, utilization levels in  
21 mature neighborhoods, where line counts have remained  
22 stable for many years, would be much higher than in other  
23 areas. Indeed, in response to numerous interrogatories,  
24 that is exactly what BA-NY claims the engineering survey is

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1       designed to accomplish. For example, in response to ATT-

2       BA-1, BA-NY explains:

3               The engineers surveyed have extensive  
4               knowledge of the environmental conditions,  
5               topography, and growth profiles in the feeder  
6               routes, based on their work experience in  
7               these wire centers. In addition to using this  
8               knowledge, the engineers also had access to  
9               various databases, cable plats, maps and  
10              schematics in order to determine the  
11              appropriate facilities.

12  
13       In addition, the instructions for the engineer survey  
14       specified that the feeder route should be designed to  
15       accommodate 10 years of anticipated growth and, because the  
16       survey required the engineers to identify cable within the  
17       route by size and distance, breakage is accounted for as  
18       well. Overall, we believe that if BA-NY had used the  
19       expertise of its engineers to estimate distribution  
20       utilization levels in place of the "analysis" described  
21       earlier, those levels on average would be much higher than  
22       40%. Second, at least two of the adjustments BA-NY makes  
23       to ultimate demand are inconsistent with TELRIC principles.

24   **Q.   WHICH BA-NY ADJUSTMENTS CONFLICT WITH THE TELRIC STANDARD?**

25   **A.**   Both the 10% adjustment for undeveloped parcels and the 10%  
26       adjustment for customers lost to competitors violate  
27       TELRIC. First, for the undeveloped parcels, by assuming  
28       reduced utilization at the beginning of the analysis and  
29       not making subsequent adjustments, BA-NY implicitly assumes

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1       that the spare for undeveloped parcels will remain forever.  
2       Under this approach, revenues from these parcels will never  
3       be available to defray the investment in spare placed  
4       solely for their benefit. Moreover, BA-NY has not  
5       established that these parcels are likely to be developed  
6       within the projected life of the outside plant spare.  
7       Second, for spare capacity that BA-NY alleges will become  
8       available because of customers lost to competitors, BA-NY's  
9       approach fails to consider that until the time customers  
10      are lost, they will contribute revenues to defray the  
11      initial investment.

12  
13      Finally, and most perversely, BA-NY has created two  
14      adjustments for distribution utilization that in reality  
15      will neutralize each other. This is so because as  
16      customers are lost to competitors, facilities will become  
17      available to serve new customers on newly built out  
18      parcels. Consequently, because these BA-NY adjustments  
19      conflict with TELRIC and are otherwise not justified, we  
20      have eliminated them in my restatement of distribution  
21      utilization factors.

22   **Q. DID YOU MAKE ANY OTHER ADJUSTMENTS TO BA-NY'S DISTRIBUTION**  
23   **UTILIZATION?**

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1    A.    Yes. As we discussed earlier, BA-NY includes in its  
2           utilization calculation an adjustment to reflect the actual  
3           number of second lines per residential unit. In response  
4           to ATT-BA-24, BA-NY stated that the average lines per  
5           residential customer was 1.18, 1.22 and 1.25, respectively  
6           for 1997, 1998 and 1999. Based on this trend, we assumed a  
7           forward-looking ratio of 1.30 residential lines per  
8           household.

9    Q.    **WHAT DISTRIBUTION UTILIZATION FACTOR HAVE YOU USED IN YOUR**  
10           **RESTATEMENT OF BA-NY'S CLAIMED LOOP COSTS?**

11   A.    Using BA-NY's "bottom-up" approach, we used a distribution  
12           utilization factor of 56 percent ( $.5 \times 1.30 \times .95 \times .9 =$   
13           .56).

14   Q.    **DID YOU MAKE ADJUSTMENTS TO OTHER UTILIZATION FACTORS IN**  
15           **THE BA-NY MODEL?**

16   A.    Yes. We changed the utilization rate for RT electronics  
17           from the 84% used by BA-NY to a more realistic forward-  
18           looking estimate of 90%.

19   Q.    **ON WHAT BASIS DID YOU MAKE THAT ADJUSTMENT?**

20   A.    BA-NY attempts to justify the use of an 84% factor by  
21           starting with an objective utilization level of 90% and  
22           backing off 4% for customer churn and 2% for anticipated  
23           growth. In fact, however, because of the relative ease  
24           with which additional capacity is added to RT units, the 6

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1 percentage point adjustment that BA-NY makes is already  
2 reflected in the difference between 100% fill and the 90%  
3 objective utilization that BA-NY claims as the objective  
4 fill level. Consequently, no basis exists for any  
5 additional adjustment. In fact, BA-NY's own engineering  
6 guidelines only allow its engineers to provision for 6  
7 months of additional line card capacity without special  
8 permission<sup>18</sup>. This would equate to a 98% channel unit fill  
9 at a growth rate of 4% per year.

10  
11 **Growth**

12  
13 **Q. DOES THE BA-NY MODEL PROPERLY HANDLE GROWTH?**

14 **A.** No. Although BA-NY's engineering survey instructions  
15 explicitly state that the network should be sized to meet  
16 current requirements as well as expected growth for the  
17 next 10 years, BA-NY makes no attempt to spread costs over  
18 anything other than the current demand levels. This means  
19 that today's customers are forced to bear the cost for  
20 facilities they will never use. BA-NY quotes an expected

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<sup>18</sup> See Bell Atlantic Document Number 1998-00397-OSP, *Outside Plant Engineering Guidelines*, July 20, 1998, para. 5.0.9., provided in response to ATT-BA-106, which states, "The Channel Units that are required to provision all non-designed voice grade type services should be placed to accommodate six months growth in most cases. If an area has volatile growth that can not be determined, then equip for twelve months and document the rationale for your decision in the estimate package."

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1 growth rate of 4 percent annually based on historical  
2 trends and expectations for the future. At 4% annually,  
3 total anticipated growth for 10 years is approximately 48%.  
4 In other words, the outside plant facility in BA-NY's model  
5 has a design capacity 48% greater than current demand.  
6 This approach is patently inconsistent with the development  
7 of BA-NY's forward-looking economic costs to provide UNEs.

8 **Q. HAVE YOU ADJUSTED FOR BA-NY'S GROWTH ASSUMPTIONS IN YOUR**  
9 **REVISIONS TO BA-NY'S STUDY?**

10 **A.** Yes. Using BA-NY's estimate of 4% annual growth, we  
11 developed an adjustment factor for each asset account to  
12 spread the annual costs over the average number of lines  
13 anticipated to use that asset over its expected life.  
14 Specifically, we computed the ratio of the present value of  
15 current demand plus growth lines over each projected asset  
16 life to the present value of current demand over that same  
17 time period. We used the FCC's prescribed asset lives for  
18 BA-NY and the appropriate cost of capital demonstrated by  
19 Mr. Hirshleifer. We then divided each asset's annual cost  
20 factor by the appropriate growth to current demand ratio.

1 Land and Building (also applies to switching costs)

2

3 Q. WHAT PROBLEMS HAVE YOU IDENTIFIED WITH BA-NY'S LAND AND  
4 BUILDING FACTOR?

5 A. BA-NY develops investment for land and buildings based  
6 on the current book relationship between land and building  
7 investment and switch and circuit equipment investment. In  
8 addition, BA-NY includes a forward looking adjustment  
9 factor to the switch and circuit equipment investment  
10 before computing the land and building ratio. Presumably,  
11 BA-NY's fundamental rationale is that forward-looking  
12 switches do not require as much building space. It  
13 therefore adjusts the embedded switch investment by the  
14 forward-looking factor. Since switch investment is used in  
15 the denominator of BA-NY's calculation to compute the land  
16 and building ratio, however, BA-NY's approach incorrectly  
17 increases the level of the land and building ratio, thereby  
18 increasing its claimed investment above TELRIC. Under its  
19 approach, BA-NY should actually adjust the *building*  
20 investment by the forward-looking ratio, which would  
21 properly reflect the fact that smaller buildings will be  
22 used to house smaller digital switches.

23

24